

Justification:
Instruction
(Maintenance)

**Private Owner
Circular Letter
613 Issue 3**

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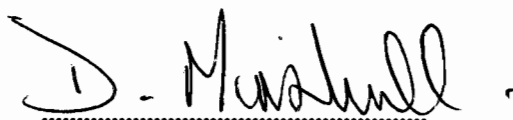
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Title

**Care of Parabolic
Springs**

ENDORSEMENT & AUTHORISATION

Endorsed by:



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Authorised by:



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1. INTRODUCTION

POCL 613, Issue 3 mandates the care of parabolic springs. The Parabolic Spring Working Group has established that correct care is essential in order to ensure springs achieve their design fatigue life in service. POCL 613, Issue 3 provides details of the paint to be used for touching up in the field on Langen and Sondermann manufactured springs.

2. INSTRUCTION

2.1 General

Parabolic springs are highly stressed components that rely on their stress peened leaves to ensure an adequate fatigue life. Hence, corrosion or damage to the stress peened surfaces will significantly reduce the fatigue life in service. In particular, care shall be taken when handling, storing or fitting springs. The painted surfaces of the leaves shall be maintained in good order at all times, including during operational service.

2.2 Delivery, transport and storage

During delivery it is essential that the spring leaves are provided with adequate, resilient protection from completion of manufacture right up to the point where they are fitted to the vehicle. Steel banding (in direct contact with parabolic springs) shall not be used during transport or storage.

Stored parabolic springs shall be supported on wooden pallets, or similar. In particular springs leaves shall not be allowed to contact either adjacent springs or other metal objects.

2.3 Fitting springs to wagons

Prior to fitting to a vehicle parabolic springs shall be visually examined to ensure that:

- a). They have not been damaged and have no paint defects or corrosion.
- b). They are correctly stamped on the buckle.
- c). They are in accordance with the manufacturer's drawing.

When fitting parabolic springs care shall be taken to ensure that damage is prevented. In particular, if mechanical lifting systems are used, the spring surfaces in contact with any device shall be provided with resilient protection.

Springs shall only be fitted to wagons such that the stamping on the buckle faces outward (i.e. is visible when installed) is visible.

2.4 Prohibited practices

Welding, flame cutting, grinding, or similar 'hot work' activities shall never be carried out either on or in the vicinity of parabolic springs. Also, substances such as grease, oil or acids which could impair either the performance characteristics or fatigue life shall not be allowed to contaminate the spring.

2.5 Springs in service

When in service any local damage to the painted surfaces of the spring plates shall be rectified by touching-up in the field using a paint system recommended by the manufacturer*.

If required wire brushing only shall be used to remove minor corrosion prior to touching-up with paint. The practice of simply coating all accessible areas of springs with paint at maintenance events shall cease.

***Note:** In the case of parabolic springs manufactured by Langen and Sondermann, ordinary aerosol spray cans of acrylic paint (as obtained from automotive accessory outlets) are recommended for this purpose.

3. SCOPE

This instruction applies to all PWRA vehicles that operate on Network Rail Controlled Infrastructure.

4. IMPLEMENTATION

This document shall be implemented immediately.

In the event of any query arising or clarification required, please contact:

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See also POCL 614, Issue 2 'Parabolic Springs'.